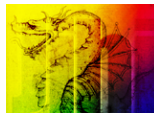


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On the Lability of Natural Entities, at the
Example of Raspe's *De novis e mari natis*
insulis

by

Enrico Pasini

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On the Lability of Natural Entities, at the Example of Raspe's *De novis e mari natis insulis*

Enrico Pasini *

Early-Modern natural philosophy—when, in the inception phase of geology, or the history of the earth, philosophy, theology, natural science and biblical history were still intertwined—can provide us with some examples of an early understanding of the possible extreme lability of apparently rock-solid natural entities. The example that we shall concentrate upon here is Rudolph Erich Raspe, a German geologist and professor of antiquities. To Raspe's way of thinking, the fact that new islands still appeared in the 18th century was proof that, in his present time just as in the past, the Earth was subject to impressive movements and commotions: and so, in an impressive way, even lifeless natural entities could raise, disappear, be born and mutate.

“Puisque l'île Julia”, reprit Pécuchet, “a disparu, des terrains produits par la même cause auront peut-être le même sort. Un îlot de l'Archipel est aussi important que la Normandie, et même que l'Europe”.
Bouvard se figura l'Europe engloutie dans un abîme.

Natural entities of ordinary size¹, although transient, are deemed to mostly be stable—at least on some scale—in their perceivable identity. Not only mountains are there and stay there, but also a rose is a rose is a rose. Yet roses are

* University of Turin (enrico.pasini@unito.it).

¹ At the unobservable level, observers and experimenters are confronted with a complex and volatile realm, that opposes to the sought-after uniformity of properties the infinity of accidental circumstances; may I refer to my “Ars experimentandi et conjectandi. Laws of Nature, Material Objects and Contingent Circumstances”, in *Contingency and Natural Order in Early Modern Science*, ed. Rodolfo Garau and Pietro D. Omodeo (Cham: Springer International, 2019), 317–342, and to the literature mentioned there.

the epitome of transitoriness: they shortly live *ce que vivent les roses / l'espace d'un matin*¹, whereas a mountain persists just like a mountain. Landscape-sized natural entities *are* stable in most circumstances and from most points of view, and even the apprehension of Earth's historical nature required Early-Modern thinkers to conceive wider and wider frames of time, in which the apparent stability of geological features could be accommodated together with *très-longue-durée* change.

Historians of philosophy write about people long since dead, who, insofar as philosophers, would often dismantle ideas so much as fitting them together. Early-Modern natural philosophy—when, in the inception phase of geology, or the history of the earth², philosophy, theology, natural science and biblical history were still intertwined—can provide us with some examples of an early understanding of the possible extreme lability of apparently rock-solid natural entities. The example that we shall concentrate upon here is a German geologist and professor of antiquities by the name of Raspe. To Raspe's way of thinking, the fact that new islands still appeared in the 18th century was proof that, in his present time just as in the past, the Earth was subject to impressive movements and commotions: and so, in an impressive way, even lifeless natural entities could raise, disappear, be born and mutate.



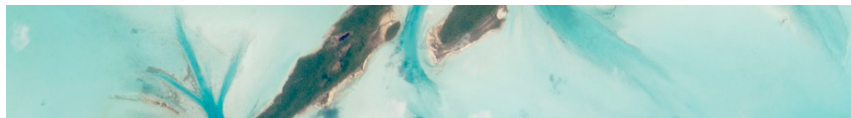
Rudolf Erich Raspe was born in the German town of Hanover, in Lower Saxony, in 1737—the year of a great earthquake in Calcutta. He died in Ireland on November 16, 1794, among great political earthquakes in Europe. Mid-18th

¹ François de Malherbe, *Consolation à monsieur du Périer*, 1607, l. 15-16.

² Cfr. Paolo Rossi, *The Dark Abyss of Time: the History of the Earth and the History of Nations from Hooke to Vico* (Chicago: University of Chicago Press, 1993); Rhoda Rappaport, *When Geologists Were Historians, 1665-1750*, (Ithaca, NY: Cornell University Press, 1997); Martin J.S. Rudwick, *Worlds Before Adam: the Reconstruction of Geohistory in the Age of Reform* (Chicago: University of Chicago Press, 2010).

century, at a time when all Europe, and Raspe himself, was still under the impression of the 1755 earthquake in Lisbon, he wrote a book on earthquakes and volcanoes, and on new mountains and islands, that gave him a transient scientific fame.

During his life he was fairly well known for this, and for other intellectual achievements of various sorts, although he is now remembered only for a great literary coup: after he had left Germany in 1775 with policemen at his heels—he was accused of pawning rare coins from a curiosity cabinet he was entrusted with—he moved to England, where along with other assorted business, trying to make ends meet, he anonymously published in 1785 *Baron Munchausen's narrative of his marvellous travels and campaigns in Russia*.¹



¹ *Baron Munchausen's Narrative of His Marvellous Travels and Campaigns in Russia: Humbly Dedicated and Recommended to Country Gentlemen; and, if They Please, to be Repeated as Their Own, after a Hunt, at Horse Races, in Watering-Places, and Other such Polite Assemblies; Round the Bottle and Fire-Side* (Oxford: Printed for the editor, and sold by the Booksellers there and at Cambridge, also in London by the Booksellers of Piccadilly, the Royal Exchange and M. Smith, at No. 46, in Fleet-Street, 1786 [but 1785]). It was post-dated for novelty's sake: in December 1785 Smollet already brought to the public's attention "Baron Munchausen's Narrative of his marvellous Travels and Campaigns in Russia. Small 8vo. 1 s[hilling]. Smith. This is a satirical production, calculated to throw ridicule on the bold assertions of some parliamentary declaimers", Tobias Smollet, *The Critical Review: Or, Annals of Literature*, vol. 60 (London: A. Hamilton, 1785), 479. Three more editions appeared in 1786, the 3rd and 4th having been re-titled—piggybacking onto Defoe's success—*Gulliver Revived: Or the Singular Travels, Campaigns, Voyages, and Adventures of Baron Munikhouson Commonly Called Munchausen*. The 3rd edition was promptly translated into German by Gottfried August Bürger as *Wunderbare Reisen zu Wasser und zu Lande, Feldzüge und lustige Abenteuer des Freyherrn von Münchhausen* (London [but Göttingen]: [Dieterich], 1786). Raspe had already published some of the anecdotes as "M-h-s-nsche Geschichten" in the Berliner *Vademecum für lustige Leute* in 1781 and 1783. Raspe would be disclosed as the author of both German and English collections only in the 19th century. See David Blamires, "The Adventures of Baron Munchausen", in *Telling Tales: The Impact of Germany on English Children's Books 1780-1918* (Cambridge: Open Book Publishers, 2009), 8-21 (<http://books.openedition.org/obp/570>).

A polymath with a taste for geology

Raspe¹ had studied law in Göttingen and Leipzig between 1755 and 1760. Since 1761 he held positions at the Royal Library (*Königliche öffentliche Bibliothek*) in Hanover: since 1762 he was the library secretary, after the death of director Christian Ludwig Scheidt (1748-1761). Scheidt had published Leibniz's *Protogæa* from the famous mathematician and philosopher's manuscripts, that were preserved in the Library. Raspe followed in his footsteps and decided to prepare an edition of Leibniz's unpublished works, that appeared in 1765 and centered around the *New Essays on Human Understanding*², of which he had felicitously found a manuscript: thus the public first knew of Leibniz's answer to Locke from Raspe's edition, in the same text that Mendelssohn, Kant, or Hegel would read, since, in order to avoid a war among publishers, Dutens did not include the *Nouveaux essays* in his 1768 edition of Leibniz's *Opera omnia*.

Raspe also briefly devoted himself to poetry: he translated into German James Macpherson's Ossian poems and Thomas Percy's *Reliques of Ancient English Poetry*, conveying to the German audience the burgeoning of Romantic sensibility, and himself wrote a ballad in the same vogue ("Hermin und Gunilde, Eine Geschichte aus den Ritterzeiten", 1766). He was also active as a translator of more ordinary works³.

Thanks to his position in Hanover, Raspe developed national and international relations with influential scholars, such as Benjamin Franklin (although

¹ Robert Hunt, "Rodolph Eric Raspe, Author of *The Travels of Baron Munchausen*", *The Western Antiquary, or Note-Book for Devon, Cornwall, and Somerset*, 5, 1885, 73-75; Rudolf Hallo, *Rudolf Erich Raspe: ein Wegbereiter von deutscher Art und Kunst* (Stuttgart: Kohlhammer, 1934); J. Carswell, *The Prospector, being the life and times of Rudolf Erich Raspe (1737-1794)* (London: Cresset Press, 1950); Uwe Meier, "Raspe, Rudolf Erich", *Neue Deutsche Biographie*, 21 (2003), 164-166; Andrea Linnebach (ed.), *Der Münchhausen-Autor Rudolf Erich Raspe: Wissenschaft, Kunst, Abenteuer* (Kassel: Euregioverlag, 2005).

² *Oeuvres philosophiques latines et françaises de feu Mr. de Leibnitz tirées des ses manuscrits qui se conservent dans la Bibliothèque Royale à Hanovre, et publiées par Mr. Rud. Eric Raspe* (Amsterdam & Leipzig: Schreuder, 1765).

³ *Soliman der Zweyte, oder die drey Sultaninen, ein Lustspiel in drey Handlungen. Aus dem Französischen des Herrn Favart Uebersetzt von St. [Rudolf Erich Raspe]* (s.l.: s.n., 1765); Francesco Algarotti, *Versuche über die Architectur, Mahlerey und musicalische Opera, aus dem Italiänischen [...] übersetzt von R.E. Raspe* (Cassel: Hemmerde, 1769).

the letters that were exchanged have rather mundane content¹), and, more relevant for his future *Flucht nach England*, the President of the Royal Society, John Pringle.

Raspe left Hanover in 1767, when he was appointed as a curator to the Museum Fridericianum in Kassel, where he also taught as professor of antiquities at the Collegium Carolinum. In his spare time he briefly published a journal and—most importantly—wrote on the geology of nearby lands. He had already issued a book on the subject, that will be our focus in the following: this first geological publication (a compendium of hypotheses on the history of the Earth and the morphogenesis of the Earth's surface) was titled *Specimen naturalis historiae* and had appeared in 1763, with dedication to the Royal Society of London, that would soon welcome him as fellow. In 1774 he gave out an essay in German on the nature and origins of the Habichtswald range, bringing on the title page, among other, his F.R.S. qualification,² and in the course of the 1770s he would have his essays on fossils and on German basaltic formations and volcanic remains printed in the *Philosophical Transactions*.³ When he made it to England, he would be renowned at least for this particular scientific profile⁴.

¹ Robert L. Kahn, "Three Franklin-Raspe Letters", in *Studies on Benjamin Franklin: The 250th Anniversary of His Birth* (Philadelphia: American Philosophical Society, 1955), 397-400; eleven letters were exchanged between 1766 and 1782, to be found in *The Papers of Benjamin Franklin* (New Haven and London: Yale University Press), vol. 13 (1969) to 36 (2001), and in the online "Franklin Papers", <https://founders.archives.gov/search/Project%3A%22Franklin%20Papers%22>. See also Hartmut Broszinski's two essays in Linnebach (ed.), *Der Münchhausen-Autor*, 132-157.

² *Beytrag zur allerältesten und natürlichen Historie von Hessen; oder Beschreibung des Habichtswaldes und verschiedner andern Niedersächsischen alten Vulcane in der Nachbarschaft von Cassel* (Cassel: J.J. Cramer, 1774). The Royal Society would strip him of his fellowship in the 1780s.

³ "De modo marmoris albi producendi, Dissertatio epistolaris Domino Maty, Societatis Regiæ Londinensis Secretario, Auctore R. E. Raspe, Sereniss. Hass. Landgravio a Consiliis, S. Reg. Sodali", *Philosophical Transactions*, 60 (1770): 47-53; "Dissertatio epistolaris de Ossibus et dentibus elephantum, aliarumque belluarum in America Septentrionali, aliisque Borealibus regionibus obviis; qua indigenarum belluarum esse ostenditur. Auctore R.E. Raspe, Serenissimo Hassiarum Landgravio a Consiliis, et R.S.S.", *Philosophical Transactions*, 59 (1769): 126-137; "A Letter from Mr. R.E. Raspe, F.R.S. to M. Maty, M.D. Sec. R.S. Containing a Short Account of Some Basalt Hills in Hassia", *Philosophical Transactions*, 61 (1771): 580-583. It is sometimes maintained that these publications earned him acceptance in the Royal Society; but it is apparent that he was already a fellow (*sodalis*) when the first appeared.

⁴ Albert V. Carozzi, "The Geological Contribution of Rudolf Erich Raspe (1737-1794)" *Archives des Sciences* 22 (1970): 625-643; Ruth Dawson, "Rudolf Erich Raspe, The Geologist Captain Cook Re-

Raspe would later republish the content of these geological essays as an English book in 1776¹. These texts had some resonance in the polemics between volcanists, as Raspe, and neptunists, that would be satirized in the second part of Goethe's *Faust*. The geographer Joseph Wilson, in his *History of Mountains*, summarizes the matter so:

On the western side of the valley in which the city of Cassell is situated, rise the steep and shaggy summits of the Habichtswald, the circumference of which is about 20 English miles. These mountains were deemed volcanic by M. de Luc and the late ingenious Mr. Raspe, chiefly on the ground of their containing basaltic pillars, but the latter, some months before his death, informed Mr. Kirwan that he had long given up that opinion.²

In Great Britain, indeed, Raspe would also be art historian, connoisseur and merchant, translator again³, editor of medieval and modern manuscripts, best-seller author, and more⁴—yet his true and long-lasting trade would be that of the mine expert, with vast mineralogical and geological knowledge⁵. His father, Christian Theophilus Raspe (1700-1781), had been himself, apparently, a miner-

fused", *Studies in Eighteenth-Century Culture* 8 (1979): 269-290; Ursula Gfeller and Bernhard Wiebel, "Rudolf Erich Raspe als Geologe. Vom 'vulkanischen Mordbrenner' zum Zweifler am Vulkanismus", *Philippia* 14, no. 1 (2009): 9-56. The latter includes the transcription of a long letter of Raspe's to the geologist and mines owner John Hawkins, dealing with his own geological theories and works.

¹ *An Account of some German Volcanos, and their Productions: with a New Hypothesis of the Prismatic Basaltes, Established upon Facts: Being an Essay of Physical Geography for Philosophers and Miners*, (London: L. Davis, 1776).

² Joseph Wilson, *A History of Mountains, Geographical and Mineralogical [...] in Three Volumes* (London: Nicol, White, et al., 1807-10), 1, 159; see Richard Kirwan, *Geological Essays* (London: Bremner, 1799), 273: "In Germany, and particularly in Hessia, Habichtswald and some other mountains were deemed volcanic by the late worthy, and highly ingenious, Mr. Raspe, but some months before his death he told me, he had long given up that opinion".

³ Raspe was the first English translator of Lessing's *Nathan der Weise*: *Nathan the Wise, a Philosophical Drama [...] Translated [...] by R.E. Raspe* (London: J. Fielding, 1781). For Reinhold and Georg Forster, and their publisher Johann Carl Spener, he collaborated on the translation of the young Forster's unauthorized travelogue of Cook's voyage round the world in 1777.

⁴ See the above-mentioned literature and also Sarah T. Kareem, "Forging Figures of Invention in Eighteenth-Century Britain", in *The Age of Projects*, ed. Maximillian E. Novak (Toronto: University of Toronto Press, 2008), 344-369.

⁵ "There can be no doubt but that Rodolph Eric Raspe was a well-educated German, possessing a knowledge of minerals and metallurgy unusual at that time amongst our British miners, but a very ill-regulated character" (Hunt, *Rodolph Eric Raspe*, 75).

alogist working as a clerk in the Hanoverian department of mines and forests¹. In the 1780s, Rudolph Erich Raspe was employed in Cornwall by industrialist Matthew Boulton and other mine owners as ‘assay master’, and he set up a laboratory there. Beginning-1790s he was a minery prospector in Scotland—not without being suspected of ‘salting’ samples—and then, on behalf of Boulton, again in Cornwall, Wales and Ireland, until his death in late 1794.



A book on appearing and disappearing sea islands

The conception of his 1763 book would be eventually described by Raspe in a letter to John Hawkins, a geologist and traveller from an important family of English mine owners. Raspe had written the book “with the fresh feeling of the Lisbon earthquake”, going back to ancient authors and theories that

hinted at how great inequalities of the Earth, with all the layers that were deposited by water, and although originally parallel are now deranged and shattered, as well as the veins and the sea-bodies, may have arisen, and how, according to various doctrines and to my own opinion, even in this century they are still formed by earthquakes. No special force or effect of Nature is presupposed. I present both the origins and present-time facts, as we so much like to see united in all circumstances of the physical and moral world.²

¹ “Der Vater war ein seßhafter und strebsamer Buchhalter am Berghandlungscomptoir” (Hallo, *Raspe*, 13).

² “Mit [...] dem frischen Gefühl des Lisboner Erdbebens [...] war es natürlich genug mit der fast ins Vergeßen gerathenen weit einfachern alten Theorie der Griechen zufrieden zu seyn, die sich beim Strabo erhalten hat. Sie [...] deuteten [...] an wie hohe Ungleichheiten der Erde mit allen ursprünglich parallelen durch Waßer abgesetzten nun aber verrückten und zertrümmerten Schichten, Gängen und See-Cörpern haben entstehen können, und wie manchen Begriffen und meiner Meinung nach dergleichen noch selbst in diesem Jahrhundert durch Erdbeben wirklich entstanden sind.

Raspe was aware at the time that already Robert Hooke and John Ray had somewhat revived such theories, yet, in his eyes, they had done it in an unsatisfactory way: “without giving to the theory either its proper extension and application to the present state of the Earth, or the historical proof of which it seemed to me to be capable”. Thus, he writes,

I ventured to present this Greek theory, so plainly illuminating to me, as fully as possible in its original purity and simplicity, with application to the present state of the Earth, and with all historical evidence which I was able to obtain. Thus, from many truths that I myself had conceived, and from several observations and concepts that vividly occurred to me in the years 1755-62, my essay on newly formed islands and their accurate observation, that you known well, came to light and was printed in 1763 by Schreuder in Amsterdam. Even so I never thought of it but as an unaccomplished attempt.¹

John Ray, an ecclesiastic and great botanist who also pioneered that kind of natural theology for which William Paley would become famous, was interested in earthquakes, burning mountains, and inundations as possible second causes in a rational account of creation², in the wave of Burnet’s *Telluris theoria sacra*. Hooke, instead, was curator of experiments of the Royal Society. Author of a

Hier ist keine Natur-Kraft oder Wirkung vorausgesetzt. Hier ist Ur- und That-Sache zugleich, wie wir sie so gern in allen Begebenheiten der physischen und moralischen Welt beisammen sehen” (in Gfeller and Wiebel, “Rudolf Erich Raspe als Geologe”, 42). Translations are mine unless otherwise noted.

¹ “Ray und Rob. Hooke hatten zwar zu Ende des vorigen und am Anfange des jetzigen Jahrhunderts etwas dieser alten Griechischen Theorie ähnliches in Rücksicht der Geologie und Oryctologie geltend zu machen gesucht – allein [...] ohne diese Theorie ihre gehörige Ausdehnung und Anwendung auf den jetzigen Zustand der Erde oder auch den historischen Beweis davon zu geben, deßen sie mir fähig zu sein schien. Aus diesen Ursachen wagte ich es diese Griechische mir so sehr einleuchtende Theorie in ihrer ursprünglichen Reinigkeit und Einfalt so vollständig als möglich, mit Anwendung auf den jetzigen Zustand der Erde und mit allen historischen Beweisen vorzutragen, die ich aufzutreiben im Stande war. So entstand aus vielen selbst empfundenen Wahrheiten und manchen mir anschaulich gewordenen Beobachtungen und Begriffen zwischen den Jahren 1755. und 62. mein Ihnen bekannter Versuch über die neu entstandnen Inseln und deren genauerer Beobachtung, die im Jahr 1763. bei Schreuder zu Amsterdam gedruckt, von mir aber nie für etwas andres als einen unvollkommen Versuch gehalten wurde” (*ibid.*).

² John Ray, *Three Physico-Theological Discourses, Concerning I. The Primitive Chaos, and Creation of the World. II. The General Deluge, Its Causes and Effects. III. The Dissolution of the World and Future Conflagration* (London: W. and J. Innys, 1721).

series of fascinating books, among which a lavishly illustrated volume of microscopic observations, and of a diary that is a trove of information on the early life of the Royal Society, he was one of the first to understand that a specific category of things found in the earth, i.e. ‘fossils’—certain petrified bodies—were remains of long extinct living forms, and that their existence and distribution told something about the world of those times, and about the origins and history of mountains and seas. These had been brought to their present state by means of earthquakes, that is, of sudden, violent vertical movements of strata of land, that would cause elevations and sinkings, emersions and submersions. In a world that had for innumerable years been exceedingly mutable, earthquakes had

turn’d Plains into Mountains, and Mountains into Plains; Seas into Land, and Land into Seas; made Rivers where there were none before, and swallowed up others that formerly were; made and destroy’d Lakes, made Peninsuls Islands, and Islands Peninsulas; vomited up islands in some places, and swallowed them down in others; and many the like strange Effects, which, since the Creation of the World, have wrought many great changes on the superficial Parts of the Earth, and have been the Instruments or Causes of placing Shells, Bones, Plants, Fishes, and the like, in those places, where, with much astonishment, we find them.¹

All such “Vicissitudes that places are subject to”², as we have already mentioned, were thought by Raspe not at all to have ceased.

His 1763 *Specimen historiae naturalis* actually had, according to 18th-century German usage, a very long title that can be translated so: *An Essay of the History of the Terraqueous Globe, Principally Concerning New Islands Born from the Sea, and Hooke’s Hypothesis of the Earth, of the Origin of Mountains and of Petrified Bodies, Further Confirmed by the Careful Observation and Description of These*

¹ Robert Hooke, “Discourses of Earthquakes, Their Causes and Effects, and Histories of Several”, in *The Posthumous Works* (London: S. Smith and B. Walford, 1705), 312; repr. as *Lectures and Discourses of Earthquakes and Subterraneous Eruptions*, ed. Arthur P. Rossiter and Richard Waller (New York: Arno Press, 1978).

² *Ibidem*. See also David R. Oldroyd, “Robert Hooke’s Methodology of Science as exemplified in his *Discourse of Earthquakes*”, *The British Journal for the History of Science* 6 (1972): 109-130; Rhoda Rappaport, “Hooke on Earthquakes: Lectures, Strategy and Audience”, *British Journal for the History of Science* 19, (1986): 129-146; Albert V. Carozzi, “Robert Hooke, Rudolf Erich Raspe, and the Concept of Earthquakes”, *Isis*, 61 (1970): 85-91.

[Islands]¹. In the *Preface*, Raspe declared geological variability to have been the focus of his wide-ranging researches:

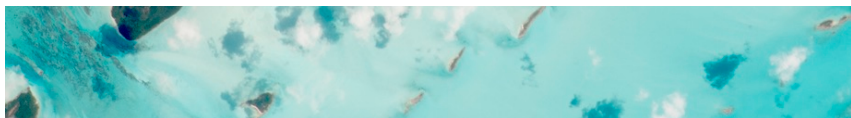
I had begun to sketch a geographic map on which would have been marked very carefully what had been changed on the surface of the earth as result of earthquakes, volcanoes, floods, through the breach of natural barriers and shores, the desiccation of swamps, the power of the sea and rivers, the violence of wind and rain and other phenomena of this kind from the remotest historical recollection. But since this requires more leisure, I here present only a small part of this history, which is actually a very accurate history of the origin of new islands born from the sea through earthquake and volcanoes and of mountains uplifted within continents.²

As previously mentioned, the book was dedicated to the Royal Society³ and appeared in Amsterdam, a major centre of book production and distribution. It was a very rich and up-to-date compilation, divided into five chapters: an introducing one, on the surface of the terraqueous globe; the second and longest chapter dealt with new islands and mountains produced by earthquakes. The other three concerned geological hypotheses and doctrines, Hooke's 'system' thereof, and, interestingly, its defects.

¹ *Specimen historiae naturalis globi terraquei, præcipue de novis e mari natis insulis, et ex his exactius descriptis et observatis, ulterius confirmanda, Hookiana telluris hypothese, de origine montium et corporum petrefactorum. Cum figuris æneis. Autore Rudolpho Erico Raspe* (Amstelodami et Lipsiæ: Sumptibus J. Schreuder et P. Mortier, 1763); engl. transl. *An Introduction to the Natural History of the Terrestrial Sphere: Principally Concerning New Islands Born from the Sea, and Hooke's Hypothesis of the Earth, on the Origin of Mountains and Petrified Bodies, to be Further Established from Accurate Descriptions and Observations*, ed. A.N. Iversen and A.V. Carozzi (Hafner: New York, 1970) (<https://books.google.com/books?id=Fbo9AAAAIAAJ>).

² Raspe, *An Introduction*, cxvii; "coepisse mappam Geographicam in qua sollicitè notatum sit, quid in superficie Globi per Terræmotus, Vulcanos, Inundationes, aggerum atque littorum perruptiones, paludum exsiccationes, vim maris atque fluminum, ventorum atque imbrium impetus aliosque ejusmodi eventus a remotissima inde Historiæ memoria mutatum: cum vero hæc majus otium exigant hic me non nisi Specimen hujus Historiæ proponere, et quidem exactiorem historiam originis novarum per Terræmotus atque Vulcanos e mari enatarum Insularum aut in continenti terra propulsorum montium" (Raspe, *Specimen*, xv-xvi).

³ "Inclytæ atque amplissimæ Societatis Regiæ Londinensis Illustrissimo Præsidi Comiti de Maclesfield, et omnium ordinum membris honoratissimis, illustrissimis, amplissimis, doctissimis" (Raspe, *Specimen*, f. 2r).



Things are moving

Hooke suggested that the fact that there are irregularities in the distribution of cavities and peaks, of continents in relation to waters, of mountains in relation to plains, etc., on the surface of the Earth, was due to the fact that the Earth, as it had been discovered, is an ellipsoid, slightly flattened at the poles, and has irregularities in motions. Hooke even added to the motions of the Copernican system a superficial motion of the Earth, thanks to which there would be oscillations of the surface between the poles and the equator. This provided the reason why earthquakes would be relatively frequent, and in the past much more violent, thus bringing about the irregular distribution. It also provided a story that might be a good candidate for substituting the scriptural version of creation and that would consequently be promptly condemned by those universities whose perceived function was, at the time, to forbid certain opinions—Oxford in particular.

Re-reading scriptures and sacred history from the point of view of Cartesian physics, or of mechanist physics in general, was a well-established tendency in the culture of the time, starting with aforementioned bishop Burnet's *Telluris theoria sacra*: the Pentateuch told an allegory of the real history of the world, where the days of creation should correspond to the phases in the geological development of the Earth. It was a history much longer than a week and governed by mechanical interactions between fire, waters, lava, vapors, the 'second causes' used by the Creator to give the terrestrial globe its final, postlapsarian and consequently disordered state. But Hooke's history—that history of earthquakes and motions of the earth surface—seemed to renounce any divine intervention whatsoever.

In the flagship second chapter of his 1763 *Specimen*—a chapter composed of not less than 32 sections—Raspe made readers acquainted with any available

report of an isle that at some moment emerged from the sea or of a mountain that was suddenly raised from the soil. Most of them were attested in the chronicles of antiquity. He mixed more and less credible sources about islands without name appearing in mythological tales, and about islands still existing like Salamina or Santorini. The latter, an island of surely ancient fame, also enjoyed renewed popularity: in 1707 an undersea volcano had breached the waters at the centre of the Santorini lagoon, erupting for more than 4 years (§ 9). Moreover, new islands that appeared in the Azores in 1638 and 1720 offered the subject matter for §§ 27-28¹.

Islands so recently born made clear that the ‘vicissitudes’ of the terrestrial globe were still rolling, an idea with which Hooke would have had problems, but which Raspe openly advocated. The decades of political revolutions were imminent, and geology, even before that, had really been into the idea of natural revolutions: not in the circular sense of astronomical gyrations, but as irrevocable events of drastic change that punctuated a linear development². Already for Hooke the Earth had undergone vast revolutions—nonetheless, what was happening now? From Raspe’s point of view, the same catastrophic occurrences that Hooke had identified as the modeling forces of Earth’s past were still operating. In this way, he was contributing both to the shattering of the traditional static vision of the natural world, and to the movement from 18th-century catastrophism to the actualism (and gradualism) of 19th-century geology.



¹ “De nova inter Azores anno 1638 enata Insula” & “De nova Azorium Insula anno 1720 exorta” (Raspe, *Specimen*, 114-117). Raspe also proposed as a conjecture—in reason of the lack of historical records—that part of the Canary Islands, St. Helena and other islands may have had a similar origin (117-119).

² I discussed this under the title “History of the Earth as a laboratory of revolutions and a critical discipline” in a panel on “Anti-Authoritarianism in Natural Philosophy” organized by Charles Wolfe and myself at the 2016 ESHS Congress in Prague.

Ephemeral islands

New mountains listed in Raspe's book, like that arisen near Pozzuoli in 1538, would rather remain as a new feature of the landscape, whereas new islands did not guarantee equal permanence and were even prone to disappear, and, maybe, eventually reappear.

The best known among such intermittent islands, at least in the European continent, lies in the Mediterranean: it is the so-called 'Isola Ferdinanda'—or 'Graham Island', since it was first observed by a British ship of the line: the captain declared it a British property and named it after a Lord Admiral. This happened in 1831, and thus did not make it into Raspe's catalogue. It was also known as *île Julia*, since it had been discovered at the end of July, or on August 1st. This quasi-Latin denomination of *Insula Julia* was devised by a French geologist, who was quickly despatched to the island to study it¹ and raise on it the *Tricolore*. In turn Ferdinand II, king of the Two Sicilies, sent a ship to vindicate the possession occupy the island and name it after a Neapolitan king instead of an English commander.

While global and local powers are still quarreling on the property of the island, when the dispute reaches its heights, the island is already disappearing under waters—"rapida si dilegua come parvenza vana, | si tinge dell'azzurro color di lontananza"². It re-emerges sometimes in relation to the movements of its geological basis, mid-way between Pantelleria and Agrigento, out of Sciacca, and lies at present 6-7 meters under sea level. It has been, might again become, but in this moment it is not an island: although it is the summit of an undersea mountain, yet we can only appreciate it as a transient 'island'.

An interest for mountains 6 meters undersea had curiously crept into the third edition of *Münchhausen*, in a *Supplement* that purported to detail Münchhausen's father's journey to Holland across the English Channel, that he performed walking on the sea bottom and admiring the undersea mountain ranges. At a point, the father related,

¹ Constant Prévost, "Notes sur l'île Julia, pour servir à l'histoire de la formation des montagnes volcaniques", *Mémoires de la Société géologique de France* 2, no. 5 (1835): 916-124.

² Guido Gozzano, *Poesie sparse*, "La più bella", l. 27-28.

I observed the effects of several accidents by shipwreck, &c. particularly a ship that had been wrecked by striking against another mountain or rock, the top of which lay within three fathom of the surface. As she sunk she fell upon her side, and forced a very large lobster-tree out of its place.¹

Raspe's book on islands was in its own way a very serious one, and received some recognition. In the foundational work of modern geology, the manifesto of actualism and gradualism, i.e. Lyell's *Principles of Geology*, which also is, by and by, an erudite collection and discussion of previous sources, there is a praiseful half-page dedicated to Raspe and his hypotheses on earthquakes, mountains, and islands:

In this work, all the authentic accounts of earthquakes which had produced permanent changes on the solid parts of the earth were collected together and examined with judicious criticism. The best systems which had been proposed concerning the ancient history of the globe, both by ancient and modern writers, are reviewed. The merits and defects of the systems of Hooke, Ray, Moro, Buffon, and others, are fairly estimated. [...] he [Raspe] was able to add many additional arguments in favour of Hooke's theory, and to render it, as he said, a nearer approach to what Hooke would have written had he lived in later times.²

Lyell remarks that Raspe is attentive to the long-lasting climatic changes that must have taken place in Europe, and to "the changes in the species of animals and plants", that is to themes of burning actuality in the geology of Lyell's time, and that in regard to the islands raised from the sea, "within the times of history or tradition, [Raspe] declares that some of them were composed of strata containing organic remains, and that they were not, as Buffon had asserted, made of mere volcanic matter"³. He interestingly inserts an appreciation of Raspe's conclusion in his own rhetorical conclusion of the exposition of Raspe:

His work concludes with an eloquent exhortation to naturalists, to examine the isles which rose in 1707, in the Grecian Archipelago, and in 1720 in the Azores, and not to neglect such splendid opportunities of studying nature 'in the act of parturition'. That

¹ Raspe, *Gulliver Revived*, 122.

² Charles Lyell, *Principles of Geology, Being an Attempt to Explain the Former Changes of the Earth's Surface by Reference of Causes now in Operation* (London: J. Murray, 1830-1832), 1, 58-59.

³ Lyell, *Principles*, 1, 59.

Hooke's writings should have been neglected for more than half a century, was matter of astonishment to Raspe; but it is still more wonderful that his own luminous exposition of that theory should, for more than another half century, have excited so little interest.¹



Run for it

In the conclusion of the *Specimen*, actually, Raspe suggests that the most important thing to do would be to study these islands as soon as they materialize, since in the case of the new Azores of 1707 and 1720 we lost a wonderful opportunity, “which would have allowed us to catch nature in the act of giving birth to lands and to examine and deflower the virgin earth, marred neither by tempest nor man”². Clearly, he is letting himself be carried away, and does not properly govern his metaphors; possibly, the reason is that he is only adding a dose of rhetorics to an idea that he has found in the authority he brings to sustain it. Still extant in the then Royal Public Library, now ‘G.W. Leibniz’ Library in Hanover, the year 1731 of the *Commentaries of the Academy of Sciences of the Institute of Bologna*³ contained a report made by the editor, Francesco Maria

¹ *Ibid.*

² Raspe, *An Introduction*, 98; “Bellissimam quidem eamque rarissimam et forte post Sæcula tantum redituram occasionem, qua naturam, terras parturientem, in facto deprehendere, atque terram virginem, nulla adhuc nec aëris intemperie nec arte deformatam, investigare atque deflorare licuisset, elabi passi sumus, cum anno 1707, in Archipelago et 1720. ad insulas Tertias seu Azores novæ prodibant insulæ” (Raspe, *Specimen*, 189).

³ *De Bononiensi scientiarum et artium Instituto atque Academia commentarii*, ed. Francesco Maria Zanotti (Bononiæ: Ex typographia Lælii a Vulpe, 1731).

Zanotti, of a paper communicated by one Tiberio Codronchi¹ to the Academy a few years before, under the title: “Of the New Island Sprung-Up in the Ocean”². It was based on a letter that Codronchi had received from Spain:

Non sine historiæ dispendio prætermitti ea possunt, quæ paucis ante annis Tiberius Codronchius cum Academia communicavit de nova insula in oceano orta; nam quanvis ab aliis diligenter descripta sit, res tamen est digna, ut et a quamplurimis describatur, et quam diligentissime. Hæc ergo Codronchius ex epistola quadam, quæ ex Hispania allata fuerat, Academiæ proposuit.³

Of this paper, that he had also put to use elsewhere in the book, Raspe quoted here the following passage:

His scriptis nunciatum fuerat eam insulam paullatim cœpisse deprimi, & jam fere totam sub aquas esse reconditam.

Quam esset optandum, ut physicus quispiam ad hanc insulam sine periculo appellere, eamque inspectare propius potuisset. Sic certe accuratiorem ejus historiam haberemus, unde aliqua hypothesis ad explicandos insularum ortus [...] existere fortasse posset.⁴

A short time after appearing, the letter said, the 1720 Azoran island was already vanishing from sight, attesting, in Codronchi’s view, how necessary it would be, and how desirable, that a physicist, that is, a natural philosopher—a scientist—be sent there to inspect the island and provide some accurate study that would make possible to draw hypotheses on the production of such islands. A remark that Raspe heartily shared.

¹ According to Luigi Angeli, *Sulla vita e su gli scritti di alcuni medici imolesi: memorie storiche* (Imola: Filippini, 1808), 212, this was the name of a much appreciated blind physician who belonged to one of the most prominent families in Imola, that counted many important ecclesiastics and doctors (“Tiberio Codronchi pronipote di Gianbattista, il quale benché cieco, fu ne’ misteri d’Esculapio molto veggente, e ne’ dogmi del vecchio di Coo illuminatissimo. Tiberio esercitò la clinica sino all’incontro della decrepitezza prestandosi indistintamente al ricco, ed al povero con ogni maniera di amorevole assistenza, e di pronto ajuto”). Angeli is not completely fiable; he also mentions (*Sulla vita*, 213) a ‘Gabriele Manfredi’ as another blind physician in contemporary Bologna, whereas that was mathematician Gabriele’s younger brother Eraclito, who, moreover, became blind only in old age. See Graziella Grandi Venturi, “I carteggi di Antonio Leprotti e dei Manfredi tra i fondi speciali dell’Archiginnasio”, *L’Archiginnasio*, 81 (1986): 45-60.

² “De nova insula in oceano orta”, in *De Bononiensi [...] Academia commentarii*, 205-207.

³ “De nova insula in oceano orta”, 205.

⁴ “De nova insula in oceano orta”, 206.

The entry for this chapter in the table of contents of Raspe's book recites: "That new islands have only raised attention, but so far have not been investigated"¹. He laments that no one up to this time has investigated the ground of the new islands and their internal structure and recommends *iter litterarium ad novas insulas*², a scientific expedition to new islands. It would provide them, if not with political or juridical representation, at least with a scientific representation.

This was going to happen eventually, and we have met an exemplification of it in the person of Constant Prévost. And 130 years after that French geologist studied the brief-lived Julia-Graham-Ferdinanda, a Nasa scientist would hurry to study a newly-formed volcanic island, in pure Codronchi/Raspe spirit³.

Apparition of islands is still happening, although it seems that, in the next years and decades, disparition might be much more common. Recently, as a tribute to the variability of the universal catalogue of natural entities, an uninhabited Japanese islet seems to have slipped beneath the waves in 2018, apparently unnoticed by nearby Hokkaido residents⁴.

¹ "Novarum insularum solum data opera, nondum investigatum est", Raspe, *Specimen*, xxii (a different and incorrect translation in Raspe, *Introduction*, viii).

² *Ibid.*

³ <https://blogs.nasa.gov/earthexpeditions/2019/01/30/land-ho-visiting-a-young-island/>.

⁴ <https://www.theguardian.com/world/2018/nov/02/japanese-island-disappears-esanbe-hanakita-kojima>.



International Space Station, Great Exuma Island, Bahamas, emphasizing island cays and tidal channels, 2015.

(<https://www.nasa.gov/image-feature/great-exuma-island-bahamas>).